AMSAT News Service Weekly Bulletins
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AMSAT NEWS SERVICE
ANS-212

ANS is a free, weekly, news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

Please send any amateur satellite news or reports to:

ans-editor@amsat.org

In this edition:

* ARISS Status July 25, 2005
* PCSAT2 Launch
* PCSAT2 Downlink Challenge
* AMSAT Video News Debuts
* VU2NUD Silent Key
* Echo Mode Change
* AMSAT President's Letter, July 2005
* SSETI Express Launch Delay
* AO-27 Mode Schedule Program Available
* AMSAT Symposium
* PCSAT2 On ISS

SB SAT @ AMSAT $ANS-212.01
ARISS Status July 25, 2005

AMSAT News Service Bulletin 212.01
From AMSAT HQ SILVER SPRING, MD.
July 31, 2005
To All RADIO AMATEURS
BID: $ANS-212.01

1. NES Teacher Workshop

A NASA Explorer School (NES) Satellite Communication Class was held at Goddard Space Flight Center July 18 - 22. The ARISS team introduced Amateur Radio and the ARISS program to thirty-five teachers.

A contact was scheduled with the ISS on Wednesday, July 20 at 17:31 UTC. Some of the educators positioned themselves at the NN1SS station located in Building 11 at GSFC, while others from the class were located outside Building 11, at a second station. The combined team participated by asking 15 questions of John Phillips, KE5DRY. The radio stations were set up to enable both groups to hear all questions and answers. The teachers were very impressed and moved by the event. On July 22, the ARRL website posted the story, "Educators query ISS astronaut via ham radio." See: http://www.arrl.org/

2. SuitSat Status

The ARISS-Russia team successfully completed a vacuum test on the SuitSat hardware. Integration and testing continue as the team works on the hardware flight certification.

3. ARRL Article on Return to Flight Mission

On July 20, ARRL ran an article on the shuttle STS-114 Return to Flight mission. To view the story, "Shuttle Discovery launch at least a week away," see: http://www.arrl.org/

4. ARISS International Meeting, Guildford, U.K.

Preparations continue for the ARISS International Face-to-Face Meeting which will be held at the University of Surrey in Guildford, U.K. The AMSAT-UK Colloquium will be held Friday, July 29 through Sunday, July 31, and the ARISS meeting will continue on Monday and Tuesday, August 1 - 2. Information on both meetings may be found on the following website: http://www.uk.amsat.org/Colloquium/default.php

5. ARISS International Teleconference Held

The monthly ARISS International Teleconference was held on Tuesday, July 19. Among the agenda items discussed were plans for the upcoming ARISS International Face to Face Meeting, PCSAT2, and the SuitSat Project.

6. ARRL Article on ISS Ham Repeater Mode

On July 20, the ISS Ham radio system was set up to run in repeater mode. To view the July 21 ARRL article, "Amateur Radio on the International Space Station in repeater mode," see: http://www.arrl.org/

On Saturday, July 23, a station in Malaysia heard Sergei Krikalev, U5MIR, sign off from a general contact. He then heard the ISS packet beacon, ending the crossband repeater mode.

7. Astronaut Training

ESA French astronaut Leopold Eyharts spent some time last month with Kenneth Ransom, training and preparing for his Technician's license exam. He took and passed the exam this week, enabling him to participate in future ARISS contacts. Eyharts is scheduled as back up for the Expedition 12 crew.

[ANS thanks Carol Jackson, KB3LKI for the above information]

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SB SAT @ AMSAT $ANS-212.02
PCSAT2 Launch

AMSAT News Service Bulletin 212.02
From AMSAT HQ SILVER SPRING, MD.
July 31, 2005
To All RADIO AMATEURS
BID: $ANS-212.02

PCSAT2 was carried into space on Tuesday, July 26 by STS-114. It will not be activated until it is installed on the outside of the ISS on 1 or 3 August during an EVA. After a week or so of on-orbit checkout, and if all goes well, the APRS digipeater will be activated for general use probably by 10 Aug.

But, well equipped ground stations are invited to help us capture early telemetry on the alternate downlink of 437.975 on the first few days of activation. Telemetry will be at 1200 and 9600 baud. For details, see: http://www.ew.usna.edu/~bruninga/pec/pc2ops.html

There are 2 classes of stations that can help.

1) We ask 1200 baud IGates or SATgates to monitor 437.975 and feed to the normal global APRS system. This will feed the live telemetry page. See: http://www.pcsat2.info/PCSat2Web/RealTime.jsp

2) 9600 Baud stations to monitor the same 437.975 for the special once-every-3.3 minutes 9600 baud data beacon (54 lines of data). Email your file to PC2@grc.nasa.gov

The UHF downlink is only 1 watt and so it will require a beam to hear it.

Good luck!

[ANS thanks Bob, WB4APR for the above information]

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SB SAT @ AMSAT $ANS-212.03
PCSAT2 Downlink Challenge

AMSAT News Service Bulletin 212.03
From AMSAT HQ SILVER SPRING, MD.
July 31, 2005
To All RADIO AMATEURS
BID: $ANS-212.03

When PCSAT2 is enabled on Monday or Wednesday, (1,3 Aug) we'd like to capture as much of the 1200 baud and 9600 baud telemetry on 437.975 MHz as possible. See the plan on:
http://www.ew.usna.edu/~bruninga/pec/pc2ops.html

1200 baud telemetry is just an occasional packet every 10 or 60 seconds just like PCsat. 1200 baud stations can simply feed their downlinks directly into the global APRS system like normal. These will help update the LIVE PCSAT2 telemetry page by G4DPZ at:
http://www.pcsat2.info/PCSat2Web/RealTime.jsp

1200 baud capture files will not be requested to be emailed unless there is an anomoly and we need some missing data.

9600 baud stations will see the special solar cell experiment data which is used to measure cell degradation over time. We need the first data sets as a

benchmark for future comparisons. Having many ground stations capturing the data will help
assure a complete initial data set.

54 lines of 9600 baud data are transmitted as a beacon group once every 3 minutes 20 seconds consisting of 11 one-second data bursts of 5 lines spaced every 2 seconds. The 5th byte of each line is human readable as a serial number starting with "A" through "Z", then "a" through "z" and then "0", and "1".

The "challenge" is due to the high UHF Doppler and the burst nature. You have to anticipate the Doppler to get a complete set since there is nothing to tune in until it has begun.

Volunteers who want to take on this challenge:

1) Please be sure to set your TNC and PC clock to UTC within a second or so. Be sure time-stamping is ON. Use Hyperterm or ALOGGER or any other capture tool (ALOGGER format is preferred).

2) Use this file name convention with time stamp and your callsign to save

the file, and also use the same format for the subject line of the Email.

PC2_YYMMDD_HHMM_CALL.txt

3) Email to PC2@grc.usna.gov

Soon we will have a separate SATGATE server just for collecting this data and a specialized version of ALOGGER which can not only log, but also serve as a simple IGate for feeding your serial port TNC into the SATGATE server.

ALOGGER is available from:
http://www.billdiaz.dynip.com/

TUNING DOPPLER: Remember that at AOS the UHF signal will be as much as 9 KHz high and at LOS will be as much as 9 KHz low. But at these times the doppler is *changing* the least and this is probably the best time to catch a complete file without any tuning glitches.

In the middle of the pass, the Doppler rate of change is the highest and although the signal will be strongest, over the center 2 minutes the doppler will shift as much as 8 KHz! This is why we expect to have to combine files from multiple users to get a complete set.

Computer tuning may not help, since the step-transition during a tuning step may garble a packet?

Also, all of our web pages will be down during this critical time since our entire building will be shut down for long planned electrical power work. Our command station will be operated via an emergency generator and a single long extension cord offering 15 amps. So read these web pages well prior to the event.

Good luck!

[ANS thanks Bob, WB4APR for the above information]

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SB SAT @ AMSAT $ANS-212.04
AMSAT Video News Debuts

AMSAT News Service Bulletin 212.04
From AMSAT HQ SILVER SPRING, MD.
July 31, 2005
To All RADIO AMATEURS
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The AMSAT web site has added a new feature intended to bring a close-up look at some of the activities of AMSAT. Members and non members alike will now have an opportunity to gain further insight into activities including "Space Day at the Smithsonian", AMSAT activities at Dayton, as well as features from the Annual Meeting and Symposium.

These video packages, delivered in Microsoft Media 9 format, are produced by long time AMSAT member Don Jacob. Don's background with the CBS television network in Los Angeles brings professional skill to this exciting new activity.

The first package available for viewing is on Space Day 2005. More packages have been shot and will be added to the NewsReel page shortly. To take a look, go to amsat.org and select the link on the left "AMSAT Video News".

Suggestions for additional material and general comments will be appreciated.

[ANS thanks Gunther, W8GSM for the above information]

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SB SAT @ AMSAT $ANS-212.05
VU2NUD Silent Key

AMSAT News Service Bulletin 212.05
From AMSAT HQ SILVER SPRING, MD.
July 31, 2005
To All RADIO AMATEURS
BID: $ANS-212.05

AMSAT has received word that Mr. Nagesh, VU2NUD, is a silent key.

It was VU2NUD who encouraged William, PE1RAH, the designed of the
Dutch transponder on Hamsat to get in touch with the project and
work with the Hamsat team.

AMSAT expresses condolences to the Nagesh family.

[ANS thanks William, PE1RAH, for the above information]

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SB SAT @ AMSAT $ANS-212.06
Echo Mode Change

AMSAT News Service Bulletin 212.06
From AMSAT HQ SILVER SPRING, MD.
July 31, 2005
To All RADIO AMATEURS
BID: $ANS-212.06

Mike Kingery, KE4AZN, and the Echo Command Team changed the mode of the
satellite on 28 July to the High Power FM repeater. This change is to
support the Boy Scout National Jamboree, in progress, at Fort AP Hill in
Virginia. This event occurs once every 4 years.

AMSAT would appreciate your help in supporting this event by allowing the
K2BSA Jamboree station to use AO-51. If we treat this as we try to do on
Kids Day, we can maximize the number of Scouts that are able to participate
and use our satellite. Reports from the Jamboree indicate that the satellite
station is drawing lots of interest from the Scouts.

Please listen for K2BSA anytime the satellite is over Virginia, and allow
them to dominate the satellite when they are active.

[ANS thanks Mike, KE4AZN, and the Echo Command Team for the above
information]

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SB SAT @ AMSAT $ANS-212.07
AMSAT President's Letter, July 2005

AMSAT News Service Bulletin 212.07
From AMSAT HQ SILVER SPRING, MD.
July 31, 2005
To All RADIO AMATEURS
BID: $ANS-212.07

It has been quite a while since I have availed myself of the AMSAT e-mail

channels to communicate with AMSAT members and
for that I apologize.

I have been focusing my communications on the Apogee View column and articles written for the AMSAT Journal and I have been encouraging AMSAT officers and Board members to communicate directly so as to distribute the work load and familiarize the membership with all of the members of their leadership team.

AMSAT has sent out ballots for the most contested election in recent memory. A great slate of candidates has been put forth
and only half of them will be elected to the Board so please cast your ballots thoughtfully. This year your vote is very
important.

The May/Jun issue of the AMSAT Journal was delayed because our publisher went out of business unexpectedly but we are back in production now. However we are in need of articles for the July/August issue as well as for the remainder of the year. If you have any story, construction project, activity or anecdote you would like to share contact our Journal editor Ed Long WA4SWJ (journal@amsat.org). Pictures are a great asset to any article, no matter how short, so take your camera to the next event! If you have something interesting but don't feel up to writing the article, that's OK. We are in the process of establishing a corps of "reporters" to write up these articles for you. Also, if you are a good writer and would like to volunteer as a reporter, contact Ed.

AMSAT-NA is hard at work on two projects, P3E and Eagle. Both of these projects are in direct support of AMSAT's strategic plan and vision statements, which call for emphasis on building High Earth Orbit Satellites. As you heard in a recent e-mail from Bob, N4HY there is significant progress on the P3E satellite's 3rd generation Internal Housekeeping Unit (IHU3), the computer brain for P3E and later Eagle.

There has also been progress on the new Software Defined Transponder (SDT) for modes U/V and L/S on Eagle. Lagging a bit, but still progressing, is the design of the C-C Rider C-band transponder for Eagle. Leadership for these projects is coming from Bob McGwier, N4HY and Frank Brickle, AB2KT with support from Tom Clark, W3IWI and Rick Hambly W2GPS. Design sessions are conducted in my lab once a week or so.

We need continuing financial support for these projects and I encourage everyone to donate what they can to AMSAT's general fund or specific projects in the AMSAT store at www.amsat.org or by calling the AMSAT office directly.

The AMSAT Echo satellite, now designated AO-51, is working almost flawlessly. It is the most capable and useful small satellite AMSAT has sponsored in many years. It takes a great deal of work from our software development and operations teams to keep Echo running this well and I thank them very much for their time and dedication.

I would like to reiterate what Robin VE3FRH, out Immediate Past President, said last year. "If you are a member of any AMSAT, please feel completely free to use ECHO, if you are not a member then please join and encourage all users to join. Unfortunately satellites do not 'Grow on Trees' they are not free to launch, but there are quite a few users who feel that it is their right to use what we have provided.

We really don't want to introduce a 'members only' policy to satellite use. For more details of ECHO and its capability call the AMSAT-NA office to order a copy of Gould Smith's ECHO book, also available through AMSAT-UK (call Jim Heck).

AMSAT's support of Amateur Radio on human space flight missions excites the minds of many people through the ARISS program where we connect teachers and students directly to astronauts in space. I went to Goddard Space Flight Center to assist with an ARISS contact for a wide-eyed group of school teachers attending the NASA Explorer School satellite communication class. There were too many teachers to fit in the cramped confines of the ARISS command station so the group was split it two. Three of us took one group outside into a field to work the space station with an HT and an Arrow antenna. Using a separate HT to coordinate with AMSAT VP of Human Spaceflight, Frank Bauer, KA3HDO, in the control room the two groups of teachers got to ask their questions and get answers directly from the astronauts. The HT and Arrow worked perfectly - 100% "armchair copy." When I saw tears on the faces of the teachers and had a chance to pose for pictures and answer questions afterwards I was truly moved. That was very fine day.

I encourage you to contact your AMSAT leadership team directly with your questions and concerns. For best results, use the links and forms provided at:
http://www.amsat.org/amsat-new/AboutAmsat/officers.php.

Rick, W2GPS
AMSAT President

[ANS thanks Rick, W2GPS for the above information]

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SB SAT @ AMSAT $ANS-212.08
SSETI Express Launch Delay

AMSAT News Service Bulletin 212.08
From AMSAT HQ SILVER SPRING, MD.
July 31, 2005
To All RADIO AMATEURS
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The SSETI Express team been advised that the launch date for the COSMOS launch vehicle scheduled to carry the SSETI Express and a number of other satellites into space has been delayed for approximately one month. A revised launch date and time has not yet been confirmed.

Sorry but we will just have to keep our fingers crossed for a little longer!

[ANS thanks Graham, G3VZV for the above information]

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SB SAT @ AMSAT $ANS-212.09
AO-27 Mode Schedule Program Available

AMSAT News Service Bulletin 212.09
From AMSAT HQ SILVER SPRING, MD.
July 31, 2005
To All RADIO AMATEURS
BID: $ANS-212.09

George, KA3HSW reports his son has finished the AO-27 mode schedule program. It is available for download if you would like to check it out. The program will show you AO-27's current mode, the UTC time of the next mode change, and the mode schedule for the next 24 hours, just as the ao27.org website does. It will also allow you to choose a future date from a calendar, and see the mode schedule for that date.

It is available in two versions: a Windows executable (EXE), or a JAR file

which will run on ANY computer with the Java 2 runtime environment
installed. The Windows EXE also requires that J2RE be installed: go to
www.java.com. The JAR has been tested under Windows 2000 and XP, Suse and
Red Hat Linux, and Mac OS9. Just put either file in a folder of your choice,
and run it from there.

Please note that the first time you run it, you will get a "File not found"
error as it looks for the epoch and schedule data files it needs. Just click
"Update Data" under the File menu to retrieve the latest versions of these
files from the ao27.org website, and it will run happily ever after.

You may download either version at:
http://home.earthlink.net/~ka3hsw/ao27
or follow the link on the www.ao27.org website to my son's download page.

[ANS thanks George, KA3HSW and his son for the above information]

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SB SAT @ AMSAT $ANS-212.10
AMSAT Symposium

AMSAT News Service Bulletin 212.10
From AMSAT HQ SILVER SPRING, MD.
July 31, 2005
To All RADIO AMATEURS
BID: $ANS-212.10

Space! Ham radio goes there and you can join in the fun! Come to the AMSAT
Technical Symposium and Annual Meeting this fall in lovely Lafayette,
Louisiana. Education and technical sessions begin on Friday, the 7th of
October. Technical, field ops, and the IARU forum follow through Sunday the
9th of October. Enjoy the best of Acadian Louisiana with Friday's "Shrimp
Boil," Saturday's Banquet with great prizes, and Sunday's "Swamp Tour."

Register on line! For more, see:
http://www.amsat.org/amsat-new/symposium/.

[ANS thanks the AMSAT Symposium team for the above information]

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SB SAT @ AMSAT $ANS-212.11
PCSAT2 On ISS

AMSAT News Service Bulletin 212.11
From AMSAT HQ SILVER SPRING, MD.
July 31, 2005
To All RADIO AMATEURS
BID: $ANS-212.11

Since PCSAT2 is on ISS but will also operate as an autonomous payload
sometimes as well, it has interest on both the SAREX and AMSAT-BB mailing
lists.

To avoid dual posting, however, we will generally make most postings on the
AMSAT-BB that pertain to PCSAT2 operations and only make postings on SAREX
when they involve PCSAT2 coordination with manned activities.

Our understanding is that during the deployment of PCSAT2 and initial
checkout, that the ARISS system will probably remain in PACKET mode when not
otherwise in use since this minimizes the potential for mutual interference.

Deployment is still expected 3 Aug or possibly earlier. After 2 weeks of

checkout, user transponders may be activated. See
http://www.ew.usna.edu/~bruninga/pec/pc2ops.html

[ANS thanks Bob, WB4APR for the above information]

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In addition to regular membership, AMSAT offers membership in the
President's Club. Members of the President's Club, as sustaining donors to
AMSAT Project Funds, will be eligible to receive additional benefits.
Application forms are available from the AMSAT Office.

73,
This week's ANS Editor,
Al Marote, WA1LBG
wa1lbg at amsat dot org

Via the ans mailing list at AMSAT.ORG courtesy of AMSAT-NA.
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